T-KIT Catalog B-97
SUMMER 1997

T-KIT

A Division of **TEN-TEC**, Inc.

Manufacturer of AMERICA'S BEST Amateur Radio Transceivers

NEW FOR 1997 . . .

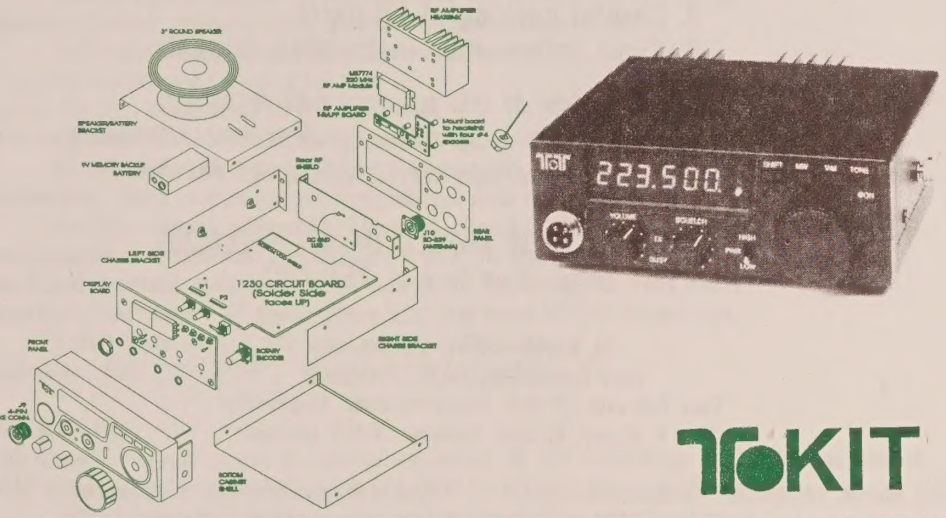
Model 1210 10M-2M 10W Transverter ➡ *PAGE 17*
Only $139. Uplink to a satellite! Work surprising 2M DX. Put that idle 10M rig back to work. Accepts 4-20W input!

Model 1230 220 MHz FM Transceiver ➡ *PAGE 9*
20 Watts, 15 memories, lowest price on the market to get on this handy alternative to busy 2 meter repeaters.

Models 1320, 1330, 1340, 1380 ➡ *PAGE 3*
Pick your favorite CW band for excellence in QRP fun!
3W RF output typical. Hot receiver, legendary TEN-TEC QSK.
Only $95 each for your choice of 20, 30, 40 or 80 meters!

T-KIT by TEN-TEC

Today's proven standard in ham radio kit building



T-KIT

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While the Ham-Electronics World has been lamenting the grand old days of kit-building, the TEN-TEC team of hams, engineers and technicians has been working to bring those days back to you!

TEN-TEC is the RIGHT company to bring you the very best in electronic kit-building using today's top technologies. We have 25 years of experience with the rapid changes in ham radio, and we stand today as the primary U.S. manufacturer of amateur transceivers . . . from the world-class Omni VI and Paragon II to the affordability of our take-anywhere "Scout." We manufacture enclosures, hardware, and even transformers in our own plant and we have a legendary reputation for customer support. In fact, we're the only major transceiver manufacturer which encourages you to open up your rig and fix problems yourself with our friendly help.

We've watched the kit industry with interest since our beginning. In fact, when he was president of Electro-Voice™, our chairman, Al Kahn, lent a hand and a big load of parts to some Michigan pals starting up a Postwar company they named Heathkit™.

The 100 people in the TEN-TEC manufacturing plant promise you these three things absolutely ***essential*** *to any electronics kit product:*

1. **Quality engineering design**
2. **Careful packing of kit parts**
3. **Clear, informative instruction manuals**

Become our partner in this adventure of restoring the USA kit-building tradition — by following directions attentively, using that ever-proud American craftsmanship as you build!

WELCOME TO A NEW WORLD OF KIT-BUILDING
from just some of us here at TEN-TEC . . .

AL KAHN, K4FW, Chairman
Jack Burchfield, K4JU, President
Tom Salvetti, KC3NF, Vice-President, Marketing
Dan F. Onley, K4ZRA, Director, T-KIT Division

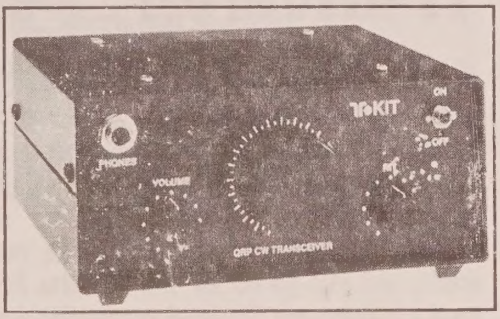
Larry Worth, WA4BSM, Production Manager, Manufacturing and T-KIT Packaging
Paul Clinton, WD4EBR, Service Manager
Mike Webber, KE4VSQ, T-KIT Engineering
Lee Jones, WB4JTR, Analog/RF Engineering
Larry Boyd, WB4ZXQ, Analog/RF Engineering
Boyd Lichlyter, KE4MCF, Analog/RF Engineering
Hardy Shelton, KA4RHX, Analog/RF Enginering
Gary Barbour, AC4DL, Digital/RF Engineering
Eric Guinn, AC4LS, T-KIT Engineering
Rick Long, KE5XY, Technician
Garry Green, N4CJX, Technician
Chyanne Prouty, KF4HHN, QC Inspector
Don Prouty, KF4HHO, Technician
Garland Jenkins, KA4ODE, Asst. Service Mgr.
Steve McCoy, KC4UJA, Technician
Danny Harp, N4YEK, Technician
Dave Dellinger, KQ4ZJ, Technician
Scott Robbins, W4PA, Customer Sales

TEN-TEC
. . . America's Best!

Take your favorite CW band anywhere for only $95!

TEN-TEC began in 1968 with the release of very inexpensive "QRP" transceivers. We thought it would be fun to revisit those roots. We explored **today's** RF technology and components to see just how inexpensive, compact and simple a ***quality*** QRP kit rig could be. The low price and great receiver design make these QSK VFO-controlled transceivers a smart choice for those times and moods when you want to try out a few watts of RF output. Get on the air from the beach, or a mountaintop, or your office or dorm room!

A New Family of QRP CW Transceivers!



T-KIT Model 1320 for **20 Meters**, $95.00
T-KIT Model 1330 for **30 Meters**, $95.00
T-KIT Model 1340 for **40 Meters**, $95.00
T-KIT Model 1380 for **80 Meters**, $95.00

Frequency Coverage: VFO tuning of any 50 KHz segment of CW subband. Tuning range is selected during winding of one toroid in the VFO circuit.
Frequency Control: varactor tuned oscillator with potentiometer control. Temperature compensated LC components stabilize VFO.
RIT (receive incremental tuning): ±1.5 KHz.
Antenna: 50 ohm unbalanced, SO-239 connector.
Power requirement: 12-14VDC, 35 mA. receive (no signal), 80 mA receive (S-9 signal), 800 mA on transmit.
Construction: Black texture painted clamshell-type steel top and bottom, aluminum chassis, subpanel and heatsink. One 3.5"X5" double-sided circuit board.
Board-mounted Components: 216 including 4 IC's, 19 transistors, 13 diodes.
Front Panel Controls: main tuning, RIT, volume, DC on-off toggle.
Connectors: front panel 1/4" stereo phone jack; rear panel SO-239 for antenna, 3 RCA jacks for key, DC input, accessory DC output.
Dimensions: HWD 2.75"x6"x6". **Weight:** 2.25 lbs./1.02 kg.

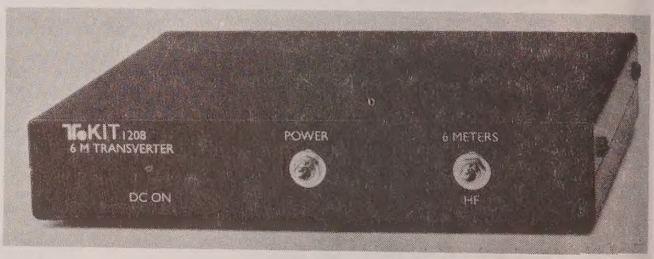
TRANSMITTER:
- **RF Output:** 3 watts typical, no external adjustment
- **T/R Switching:** solid state, full break-in
- **CW offset and sidetone:** Adjustable 400-1000 Hz sidetone automatically tracks offset frequency. Sinewave sidetone has internal level adjustment.

RECEIVER:
- **Type:** single conversion superhet, JFET mixer
- **Sensitivity:** .25 μV typical for 10 dB S/N
- **Selectivity:** 4-pole crystal ladder filter (1 KHz nominal bandwidth)
- **AGC:** audio derived
- **IF frequency:** 11 MHz on 80 and 40 meter models; 14.32 MHz on 30 meter model; 6.14 MHz on 20 meter model.
- **Audio:** 300 mW @ 4 ohms, built-in 3" speaker

Let's Get Together and REPOSSESS 6 Meters!

How long can FOUR WHOLE MEGAHERTZ of precious semi-HF VHF spectrum just sit there for us hams if so few of us have gear to even try out this fascinating 6 Meter band? The T-KIT 1208 Transverter lets new Technicians and oldtimers alike repossess 6 Meters at a VERY nice price!

SSB-CW-FM **6-Meter Transverter**



Add the excitement of the 50 MHz amateur band so easily to ANY modern ham transceiver, including all those 20-Meter-only QRP rigs. A transverter lets you transmit as well as receive on 6 Meters, using the precision digital tuning, available modes, memories and other features of your HF transceiver. It's simple: 14.000 MHz on your display or dial is 50.000 MHz. To operate SSB on 50.200 MHz, simply switch the 1208 to 6 Meters, tune to 14.200, keep transceiver RF output under 5 watts, and just go for it! The 8 Watts RF output is generous power during good band openings and for local communications and repeaters.

Features:

- ❑ Use with any transceiver capable of 3-5 watts on 20 meters
- ❑ Extremely simple hookup and operation
- ❑ Low-noise 50-54 MHz receiving input
- ❑ Easy front-panel switching between HF and 6M antennas
- ❑ Fast, silent RF-sensing PIN diode T-R switching for QSK and data communication

Specifications and Operating Requirements: 12-15VDC at 3.0 amperes external DC power requirement • RF output at 51 MHz: 8 watts typical • standard 20M transceiver required for basic 50.000-50.350 MHz Beacon/CW/SSB operation • FM operation requires FM transmit/receive capability of a general coverage transceiver capable of 14-16 MHz operation, with repeater offsets being a function of the transceiver's VFO memory system • Receive 50-54 MHz; transmit 50-52 MHz (transmitting above 52 MHz is not recommended) • the 14 MHz transceiver RF output MUST be attenuated to 5 watts or less.

T-KIT No. 1208, Six-Meter Transverter Kit, $95.00
No. 1208A, Assembled/Tested 6M Transverter, $159.00

JUST WANT TO LISTEN IN . . .

on 6 Meters on a budget? Try a fine little 6-Meter Receive Converter with any 10 Meter receiver or transceiver by building T-KIT Module Board No. 1061 for only $17.00. 28-30 MHz receiver coverage tunes 50-52 MHz. SEE **Page 14.**

More Ways to explore 6 Meters

T-KIT Model 1209 Transverter: 8 watts RF output on 6 meters from your 2 meter rig or HT for only $95!

Newly-licensed hams: explore your operating privileges beyond 2 Meters VERY economically! Operate 50-54 MHz on any mode covered by your 144-148 MHz rig or HT. With the same general features and specifications as our popular 1208 6 Meter Transverter (see page 4), the Model 1209 was designed for those regions where 6M FM repeaters take the load off the busy 2M systems. And you may find yourself making cross-country simplex QSO's during those exciting 6M band openings.

Just think: only $290 gives you BOTH 2M and 6M if you build and use the 1220 Transceiver and 1209 Transverter! (See page 10)

T-Kit Model No. 1209 6 meter Transverter KIT, $95.00
Model 1209A, factory assembled, $159.00

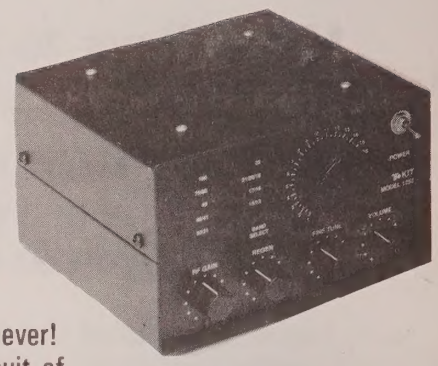
T-KIT Model 1260 6 Meter FM TRANSCEIVER for only $195!

- **15 programmable memories**
- **ready for 6M's varying transmit offset schemes**
- **microprocessor-controlled**
- **complete with microphone, internal speaker and mobile bracket**

Read about the Model 1220 2M transceiver (pages 10-11) and imagine the same great-looking rig ready for easy and fun 6M FM repeater or simplex action, no matter what kind of transmit offset scheme is employed! FCC regulations currently prohibit the sale of an add-on amplifier, but our many happy transverter owners can tell you that a few watts on 6M is a blast!

T-KIT Model 1260 5 Watt 6 meter Transceiver KIT, $195.00.

9-Band Shortwave Receiver



The classic "first radio kit" is back better than ever! We've combined the very same audio output circuit of TEN-TEC transceivers with a modern FET design for classic regenerative SWL receiving plus one-button electronic bandswitching. The result is an easy-to-build shortwave radio that's fun and interesting for the whole family. No alignment required. Simply install all parts as directed, put together the high-quality mechanical parts, and start enjoying the magic of shortwave radio. Explore 9 smooth-tuning SWL and ham bands from 1.8 to 22 MHz at the push of a ⏏ button! Receives AM, SSB, CW and all those other magical shortwave sounds.

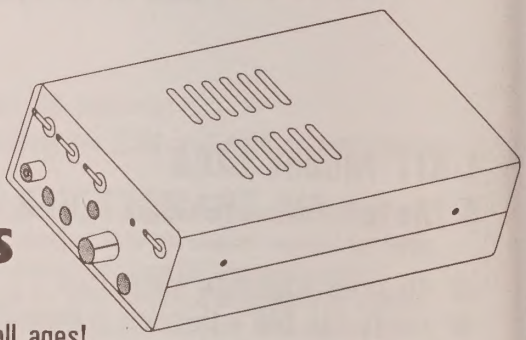
FEATURES: Front-panel RF gain, Volume, Regeneration, Tuning **and Fine-Tuning** controls • generous audio from Signetics TDA2611A to built-in speaker or stereo phone jack • Electronic switching of 9 tuning ranges • rugged, rounded-clamshell steel enclosure • simple, clear linear logging scale for large tuning knob • requires 8 alkaline C cells or external 12VDC.

KIT No. 1253, $59.00

On a tight budget with a club of eager radio builders? Our 4-Band Model 1054 Module Board Kit has comparable features for only $24! See page 14.

Listen to the Mysterious Sounds of ENERGY!

Hi-Sensitivity Audio Amplifier with Experiments



A wonderful project kit for experimenters of all ages! Build a rugged, versatile, portable utility amplifier (for which you'll find dozens of practical uses over the years). Then, begin to explore the fascinating world of the unique sounds made by all kinds of energy — from lightning whistlers on the other side of the world to the stress noise of a bending paperclip. Listen to radar, to light waves, to your computer. Listen to nearby radio signals on any frequency, any mode. In addition to the kit assembly manual, you get a fascinating project booklet based on experiments by USAF Engineer Calvin R. Graf as your guide to adventures with the sounds of Energy. Amp;ifier features hi and low Z inputs, switchable preamp, 1.5W output. Requires 8 "AA" batteries or external 12-15 VDC.

NOTE: The kit includes accessories for many of the energy listening experiments. You will need 1x2" wood (furring strips) and wire to build the 4' loop antenna explained in the project booklet.

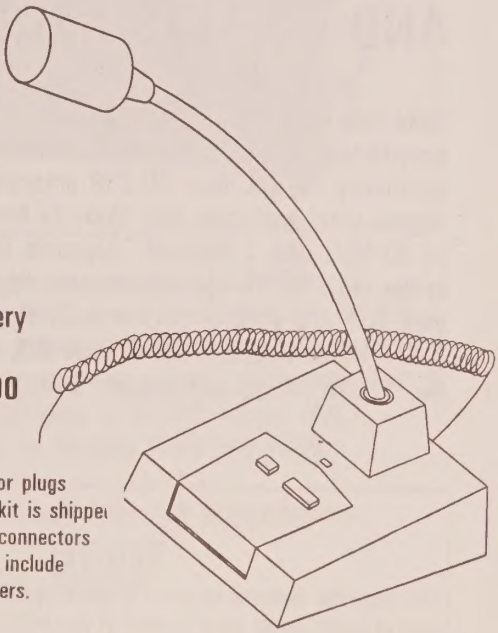
T-KIT No. 1252, $44.00

Communications Desk Microphone

If you want your station to have the same quality of desk mike expected by demanding TEN-TEC transceiver users, at a great price savings, here's your chance to build and learn all about a proven desk-style comnunications mike that will complement any HF or VHF transceiver.

T-KIT 1201 Mike Features:

- ❑ Choice of PTT or VOX operation
- ❑ Electronic lock and release of PTT
- ❑ Sensitive op-amp preamplifier
- ❑ LED "on" indicator
- ❑ Type: Electret Condenser
- ❑ Sensitivity: -52 dBV/1 μbar
- ❑ Uses 7-14 VDC from rig or internal 9V battery

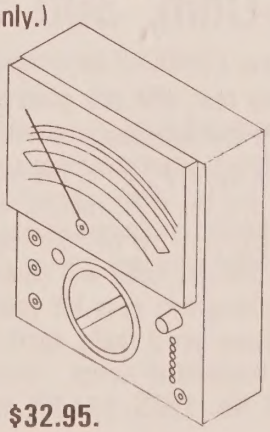


T-KIT No. 1201 Desk Microphone Kit, $59.00
TEN-TEC Model 705 (factory wired/tested), $79.95

MIKE CONNECTORS: Because various styles of connectors or plugs are used in ham and audio equipment, the 1201 microphone kit is shipped WITH shielded coil cable but less connector. Most standard connectors are stocked by RadioShack™. Current TEN-TEC microphones include 4-pin connector standard for all TEN-TEC and T-KIT transceivers.
TEN-TEC No. 35057, 4-pin microphone connector, $3.00

Economical Multitester

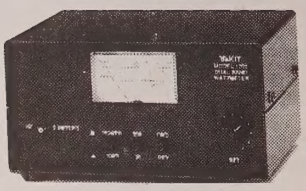
We found this great value in a taut band, mirrored scale VOM with handy extra features. We were so impressed with its performance that we decided to offer it for sale to our kit customers. (Not a kit: factory-assembled only.)



- ❑ 20,000 ohms/volt
- ❑ DC volts: 0.1, 0.5, 2.5, 10, 50, 250, 1000
- ❑ DC current: 50μA, 2.5, 25, 250 mA, 10A
- ❑ Resistance to 20 megohms
- ❑ AC volts: 10, 50, 250, 1000
- ❑ Audible continuity checker
- ❑ hFE transistor testing
- ❑ Built-in Battery Tester
- ❑ Rear panel pop-out stand
- ❑ 4"W X 6"H X 1.5"D

TEN-TEC Model 1130 Multitester, factory-assembled, $32.95.

20/200 Watt
SWR Bridge & RF Wattmeter
for BOTH 1.8-30 MHz AND 144-148 MHz!



Build this top-quality station accessory that you'll use for a long, long time. Features easy-to-read meter, front panel switching of 20 or 200 watt ranges, HF or 2-Meters, sensitivity control, four SO-239 antenna and transmitter connectors, all housed in a rugged steel enclosure less likely to bounce at the mercy of RG-8 coax! Range: 1.8 to 30 MHz *plus* 2 Meters! Separate HF and VHF connectors let you leave the unit in-line with BOTH rigs. Convenient toggle switching between HF and VHF. This is your USE-ANYWHERE RF Power/SWR meter system!

T-KIT Model 1202 SWR Bridge Kit, $49.00

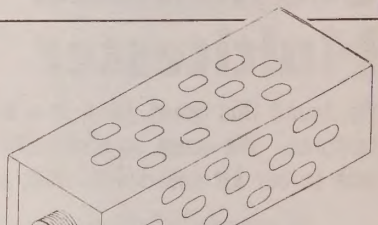
No. 1202A, wired and tested, $74.00

TEN-TEC . . . *America's Best!*

You have the common sense to know why TEN-TEC doesn't build into the cost of our radios the cost of giving away hats 'n stuff at hamfests. But, we're proud of the many requests we get for TEN-TEC caps, mugs, or other symbols of the made-in-USA pride that you share with the 100 folks at TEN-TEC. So, if you'd like our sharp-looking, top-quality *embroidered* all-weather cap (gray, with black/red design), it's yours for a few % over our cost! Thanks for joining the TEN-TEC team!

TEN-TEC embroidered cap, adjustable band, $10.00.

RF Dummy Load
50-Ohm, 300 Watts



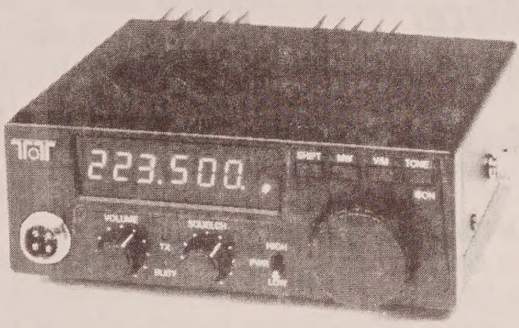
"I know I SHOULD be using a dummy load for this test. Will this giant surplus resistor work? What's the impedance of this big old light bulb?"

YES, a dummy load is the least exciting of all radio tools. But, there are those times when it's the right tool for the job. Your complex transceiver suddenly acts like a QRP rig: is it the rig, the tuner or the antenna? Loading the rig directly into the 1203 Dummy Load will report the basic health of your transmitter section. Save $$ by building this easy kit yourself. With many common-sense uses, this is the boring accessory you'll really appreciate whenever you start to wonder what's going on with ANY transmitter setup. Good for HF and VHF. C'mon: get one!

T-KIT No. 1203, $24.00, TEN-TEC No. 239, factory-assembled, $27.95

2 Meters Getting Crowded? Discover 220 MHz Action!

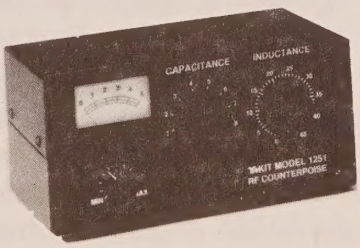
T-KIT Model 1230 220 MHz FM Transceiver



Engineered specifically for the 222-225 MHz band, using integrated 220 MHz RF power module for simplified construction and alignment. Front-panel switching of 4-5 watts or 20 watts RF output. Shop around: the Model 1220 is the lowest-priced 220 MHz rig on the market with the features you need and expect. Microprocessor-controlled, 15 memories, tunes 221.890 - 225.200 MHz in 10 KHz steps, plus Memory Scan. General operating features similar to Models 1220 and 1260.

See next page for more details and specs on T-KIT VHF FM Transceivers.

T-KIT Model 1230 20 Watt FM Transceiver Kit, $295.00
Includes microphone and mobile mounting bracket.

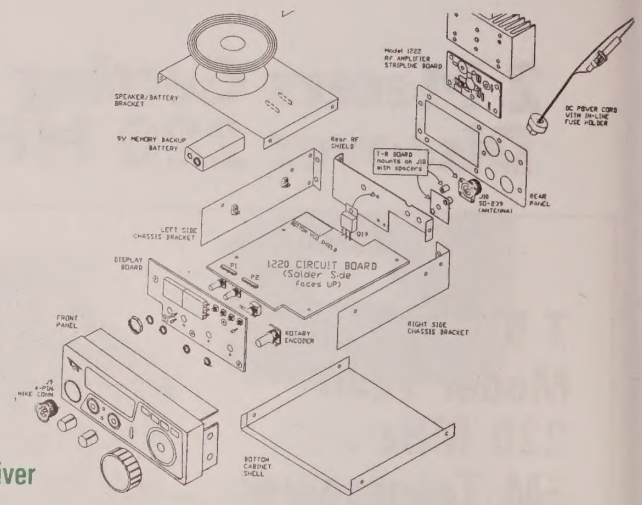


Compact RF Ground Counterpoise

At a fraction of the cost and size of other "artificial ground" gadgets, the T-KIT 1251 helps solve those annoying RFI/TVI and "hot chassis" problems caused by a lack of proper RF ground. Ideal for condo and travel situations where PVC plumbing makes classic waterpipe grounding schemes impossible, or if a good ground is too far away from the station. While NOT a substitute for a vertical's radial system or for the basic safety grounding required for all installations, it does provide a "tuned counterpoise" to satisfy the transmitter's need for a correct RF ground path.

T-KIT Model No. 1251, $49.00.

Build your own 15-Memory 2-Meter FM Transceiver for only $195!



The Model 1220 FM/Data Transceiver shows just how serious T-KIT is about filling the big void in ham radio kit-building. Why pay hundreds more? You do NOT have to rely on imports for a 2-meter FM transceiver with the modern features which today's hams take for granted. And you won't have to settle for the stripped-down performance of other VHF kit transceivers. You'll learn from building it how to take care of it yourself. Priced like a second rig, good enough to be your only rig!

T-KIT Model 1220 Transceiver Features:

- ❑ Advanced microprocessor-controlled design
- ❑ Front-panel knob tuning of 143.500-148.500 MHz in 5 KHz **(or 2.5 KHz) steps**
- ❑ **15 Memories** store frequencies with repeater offsets **AND subaudible tones!**
- ❑ Store up to FIVE non-standard TX offsets (CAP, MARS, etc.)
- ❑ Bright 6-digit LED display resolves to 5 KHz channel tuning steps
- ❑ LED indicators for TX Offsets, Simplex, RX Busy, TX On-Air, CTCSS tone on
- ❑ Built-in speaker PLUS external speaker jack
- ❑ Optimized, standardized packet circuitry, standard DIN connector
- ❑ **Hand Microphone and Mobile Mount . . . BOTH INCLUDED!**
- ❑ Build it now for 5 Watts or 30 Watts, or upgrade to 30 Watts later
  (Or use with T-KIT 1200 external RF Amplifier)
- ❑ Contemporary molded front panel and steel case are standard, not extra!
- ❑ Instantaneous, silent PIN diode T-R switching
- ❑ Full CTCSS subaudible TX tone set **BUILT-IN**, microprocessor-controlled

Model 1220 Typical Specifications: Sensitivity .2 μV for 12 dB SINAD ● Deviation ± 5 KHz ● Dynamic range: 70 dB (2 tone, 3rd order IMD @ 20 KHz from 146 MHz) ● Adjacent channel rejection: 70 dB (@ 20 KHz from 146 MHz).

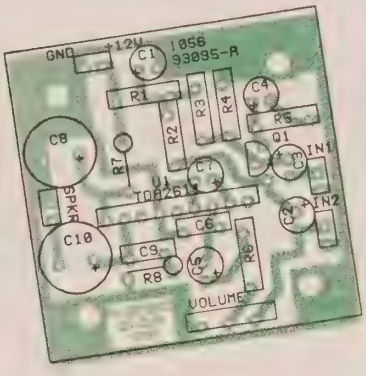
T-KIT Model No. 1220 Transceiver Kit, 5 Watts RF Output, $195.00

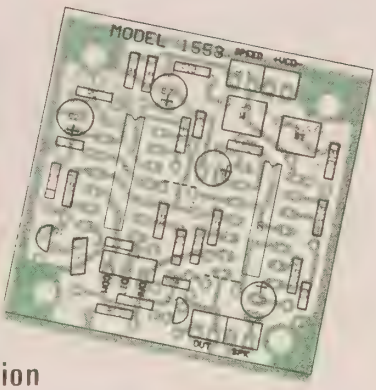
No. 1222 30 Watt RF amplifier module kit for Model 1220, $64.00

No. 1224 Microphone with DTMF keypad, price to be announced

For Creative Kit-Builders . . .

T-KIT MODULE BOARDS





As T-KIT continues the Tradition
of Heathkit, Knight, WRL, Layafette and those other grand kits
complete with all hardware and enclosure
there still is the other tradition of
simpler kits with PC-board, primary parts and instructions only,
designed for those who prefer to find their own kit-finishing hardware.
That's why we bring you T-KIT MODULE BOARDS,
the very best in "little kits" for careful budgets!

These "smaller" but carefully-engineered T-KIT boards
are for hams and experimenters who use their own hardware and ingenuity to custom-finish a project. You get the circuit board with all needed I/O pads, all board-mounted parts, a well-engineered circuit and the same high-quality step-by-step instruction manual that is the hallmark of all T-KITS. Finish the job with your own switches, connectors and enclosure, or get a great head-start with a T-KIT *Enclosure-PLUS* Hardware Pak featuring TEN-TEC's easy-to-use blank aluminum boxes, plus a useful assortment of finishing hardware and components.

See Pages 12-16:
T-KIT MODULE BOARDS . . . the very BEST in "Little Kits"!

❑ Transmatch Tuning Bridge

Have you ever wondered what good one of those $60-100 "R-X Noise Bridges" could do for YOUR station setup? Are you baffled by your antenna tuner or "transmatch"? The 1051 is easy to build and super-easy to use. No "R-X" controls, calibration or calculations needed. Just connect it between your rig and antenna tuner, set receiver to desired operating frequency, and adjust the antenna tuner until the distinctive *modulated pulses* (NOT just straight "noise"!) drop to an easily-recognized "null" indicating that the tuner offers a 50-ohm match to your transceiver -- with NO on-the-air nervous experimenting with the tuner controls!

T-KIT No. 1051, $17.00

Suggested Enclosure-Plus Pak, No. 1000A, $15.50

❑ Foxhunt "Beep-Beep" Transmitter (for FM Broadcast Band)

Here's a great gadget at a great price for clubs, classes, scout troops and packs, camps and family fun! Tune it to any quiet part of the 88-108 MHz FM band per FCC Part 15 rules, noticing its distinctive "beep-beep" modulation, and let the kids use their own FM portable radios to discover the basics of direction-finding. Hide it indoors on rainy days! Includes board-mounted on-off switch and 9V battery snap. Use several to demonstrate triangulation.

T-KIT No. 1059, $12.00.

❑ Budget Electronic Keyer

A classic circuit and a nice price make this a great project for beginners or for building into extra rigs. Includes speed control, weight control (rarely offered in "simple" CMOS circuits) and sidetone pitch control. A lot of keyer for the price, it features self-completing dits and dahs for standard single-lever keyer paddles. While not designed for iambic operation, the price and reliability make the 1553 a very nice introduction to electronic CW keying.

T-KIT No. 1553, $12.00

Suggested Enclosure-Plus Pak, No. 1000A, $15.50

(Also may be mounted inside TEN-TEC Keyer Paddle, Model 607, $39.00.)

❑ Electronic Selector Switch Module

We designed this handy panel-mount module for use in various other T-KIT designs, to control bandswitching and other functions. Tactile push button selects up to 9 positions with LED indicating the active circuit. Basic switch board provides a logic high output for active switching line. Use your own common transistor/diode switching circuits to control a virtually unlimited number of functions.

T-KIT No. 1060, $9.00

T-KIT, a division of TEN-TEC, Inc.
1185 Dolly Parton Parkway • Sevierville, TN 37862 • (423) 453-7172

T-KIT Enclosure-*PLUS* Hardware Paks

With three sizes to fit all T-KIT Module Boards, these nifty Enclosure-PLUS Hardware Paks give you real choices for dressing up your small kit projects:

- ❑ Dig through and make good use of your own parts collection
- ❑ Shop at Radio Shack, local distributor or next hamfest
- ❑ Enjoy the practicality of a T-KIT **Enclosure-*PLUS*** Hardware Pak

ALL Enclosure-PLUS Hardware Paks include: TEN-TEC TP-series aluminum box suitable for your project, mechanical hardware, plus helpful toggle switches, knobs, etc. You may get more than needed for the one project: add the extra goodies to your parts drawers for your next T-KIT MODULE BOARD project!

Connectors: Since there are so many **different** hookup methods useable for RF, DC, audio, and other connections, we must leave it up to you (or your Radio Shack store, ham buddy or hamfest) to choose what's handiest for rear-panel hookups.

THREE Convenient T-KIT Enclosure-PLUS Hardware Pak sizes:

❑ T-KIT No. 1000A (standard), $15.50
[TP19 box (2X4¾X4"), DPDT toggle, wire/mini-coax pak, knob, misc. hardware]

❑ T-KIT No. 1000B (medium), $19.50 [tops in value and general usefulness]
[TP41 box (2¼X5½X4¼"), DPDT & SPDT, 3 knobs, wire/coax pak, hardware]

❑ T-KIT No. 1000C (deluxe), $22.50 [for 1056 receiver, similar projects.]
[TP45 box (2¾X6½X5½"), SPDT, wire/coax/hardware, 5 knobs, 3" speaker]

See page 18 for Kit-Buyers' SAVINGS on many TEN-TEC enclosures!

❑ "Smart Squelch" Band Opening Alert

Also known as the DXer's "Integrating Squelch," this great circuit liberates your family from hiss, whines and other noises when your receiver is tuned for those unpredictable openings on any HF or VHF band that usually seems DEAD. This "integrating" squelch responds to the cumulative effect of several seconds of weak signal rather than to isolated noise bursts. Connect between rig and external speaker; no receiver modification required. You supply creative 12VDC alarm devices (piezo, chime, strobe light, etc.) Also may be used to add conventional squelch feature to older receivers, any mode. (Strong signals break squelch quickly.)
T-KIT No. 1064, $19.00
Suggested Enclosure-Plus Pak, No. 1000A, $15.50

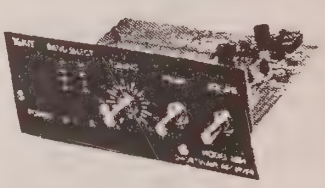
A New World of Budget-Priced Receiver Projects!

❑ Universal BFO for SWL Receivers

Got an old (or very new) AM-only shortwave radio with no CW-SSB capability? If you want to enjoy casual CW-SSB reception, this varactor-tuned 455 KHz oscillator may be built into larger receivers or else mounted in its own case and placed near your portable SWL radio. The on-board tuning control compensates for alignment variations from one receiver to another in addition to permitting fine-tuning of SSB/CW signals. Operates on 6 to 15 VDC.

T-KIT No. 1050, $9.00

Suggested Enclosure-Plus Pak, No. 1000A



❑ Regenerative 4-Band SWL Receiver

(Kit INCLUDES drilled, painted, silkscreened aluminum front panel!)

Here it is: PROOF that the classic "first receiver" project need not be more expensive today than our favorite 1950's kits. In fact, this great little receiver beats the pants off those 3-tube radios with the big plug-in coils. Excellent for clubs, classes and family activities. Band coverage: 49 Meter SWL band, 40 Meter ham band, 31 Meter SWL band, plus exciting 12-15 MHz tuning for daytime shortwave listening, 20 Meter ham band and all those other magical shortwave sounds. The sharp-looking front panel gives the "real radio" look right away: dress up your project later with a case and knobs, and perhaps a speaker. You can enjoy the basic kit just by hooking up 9 to 12 volts DC, setting up a modest wire antenna (10 feet or more of hookup wire) and plugging in your own stereo headphones (1/8" plug). Features convenient push-button bandswitching, on-off switch, "on" LED, tuning, volume, regeneration control.

T-KIT No. 1054, $24.00

Suggested Enclosure-Plus Pak, No. 1000B, $19.50

Attention, Club Leaders! No. 1054C **T-KIT CLASS-Pak:**
Includes five 1054 Receiver Kits, Instructor's Notes, Spare-Parts Kit, $110.00.

❑ 6-to-10 Meter Receiver Converter

Get more fun and use out of that often-idle 10-Meter mobile rig or ANY ham transceiver (or receiver) with a good 10-Meter capability. Take FULL advantage of your rig's sophisticated features to enjoy low-cost monitoring of 6-Meter's fascinating propagation. Build this crystal-controlled converter at a fraction of the cost of other kits. Receive any mode available on the transceiver itself. 28-30 MHz receiving range tunes 50-52 MHz. Runs on 9-15 VDC.

T-KIT No. 1061, $17.00

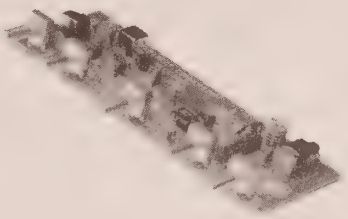
Suggested Enclosure-Plus Pak, No. 1000A, $15.50

❑ "ANY BAND" Direct-Conversion SSB/CW Receiver

This is your *best buy, by far*, in a ham band direct conversion receiver kit. It has better audio and filtering than the others, and we supply the parts and instructions to let you build it for (or change it to) ANY band of your choice. That's Right: YOU choose the Band! Many hams KNOW that there are only minor coil and capacitor differences in the simple RF input and oscillator sections of a basic direct-conversion receiver. We give you ALL parts needed to build for your choice of 160, 80, 75, 40, 30, 20, 17, 15, 12 or 10 meters! Try out your own multi-band switching ideas. Start planning a budget-priced QRP transceiver that will really WORK!

Note to Beginners: Contrary to some advertising claims, a direct-conversion receiver is very good for CW/SSB but **cannot** provide very pleasant listening for shortwave AM broadcasts (BBC, Radio Moscow, VOA, etc.) For general listening, we suggest T-KIT Model No. 1054 or No. 1253.

Model 1056 Receiver Design Features:



- ❑ Signetics NE612 mixer-oscillator
- ❑ True varactor tuning (MV209)
- ❑ Zener diode regulation
- ❑ LM358 op amp bandpass filter
- ❑ Front-panel bandpass control
- ❑ Signetics TDA2611A audio amplifier IC
- ❑ Stereo jack for economical "Walkman" headphones
- ❑ Plenty of speaker audio
- ❑ **Separate "Bandset" and s-m-o-o-th 20 KHz "Bandspread" tuning controls!**
- ❑ RF gain control
- ❑ Provision for TX sidetone injection
- ❑ Provision for receiver audio muting during transmit
- ❑ Efficient 6"WX2½"D board layout: take your favorite ham band ANYWHERE!
- ❑ Jumper provision for separate DC supply to audio IC
- ❑ Operates on 12-15 VDC

T-KIT No. 1056, $29.00

Suggested Enclosure-Plus Pak, No. 1000C, $22.50

❑ Active Antenna for Receivers

If you've been curious about what an "Active" receiving antenna can or cannot do, without paying the $40-$100 cost typical of both kit and manufactured units, you will enjoy the experience of building, learning about and using this very simple, budget-priced kit. Just for fun, we carefully tested this little T-KIT 1552 Module board next to active antennas sold by Heath, MFJ, Ramsey. Wow: you'll get the performance without the price tag! Bring ANY HF receiver to life with the 1552 and a small length of wire, or a simple whip antenna! Compact 1.75" square board can be mounted inside receiver or in its own small box. Circuit includes gain control; operates on 6 to 15 VDC.

T-KIT No. 1552, $12.00

Suggested Enclosure-Plus Pak, No. 1000A, $15.50

❑ Universal Low-Noise Broadband DC to 1 GHz RF Preamp

You KNOW that every kit company sells some sort of broadband preamp for all purposes. If you want to try a broadband, untuned RF preamp on any receiver or scanner or other instrument, THIS one is your best buy! Excellent noise figure, gain and frequency coverage *at a BUDGET PRICE!* Up to 18.5 dB gain at 100 MHz. 17 dB gain typical at 500 MHz. Supply voltage: 8-14 VDC.
T-KIT No. 1001, $9.00

❑ Utility Audio Amplifier

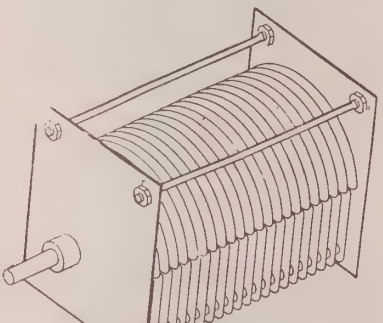
Need a quick, reliable, inexpensive audio amplifier stage for that homebrew project? This careful design *gives your project the very same audio output circuit that we use in today's TEN-TEC transceivers!* Enjoy 1.5 watts of low-distortion audio with no worry about motorboating and other unwanted oscillations. Includes optional preamp input for 10 dB gain. Important: this circuit is designed for 12-15 VDC.
T-KIT No. 1550, $10.00

❑ Microphone Speech Processor

While speech processing IS a standard feature of today's SSB transceivers, there's plenty of nice equipment at hamfest flea-markets which can benefit significantly from the addition of this proven speech processor circuit used in all of today's TEN-TEC transceivers. If there's room, build it into that older rig. Or, design it into that audio console you've been planning, or just use a neat TEN-TEC box!
T-KIT No. 1551, $12.00
Suggested Enclosure-Plus Pak, No. 1000A, $15.50

YES! You can build a . . .

High-Power Variable Capacitor



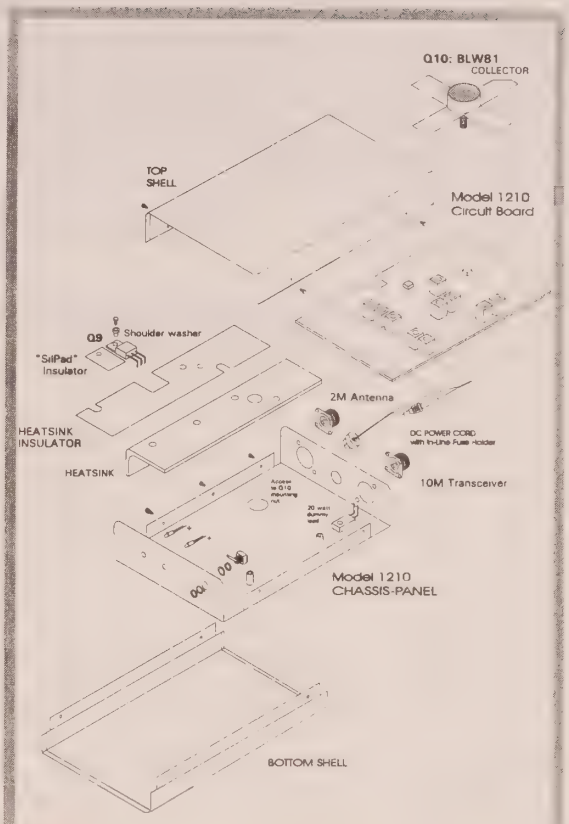
❑ 40-500 pF
❑ Rated 3.5 KV

What? Me BUILD a capacitor? Air-variable capacitors cost **$$$** these days *because of all the hand labor of putting them together.* If you'd like to spend part of an evening reliving those grand old Erector Set days, save money by assembling your own high-power variables from our top-quality factory-ware. Build the same tuning capacitors used in world-class TEN-TEC 1.5KW RF amplifiers and tuners. Great for all hi-power homebrew projects, including experimental loop antennas.
T-KIT No. 1207, $39.00 (TEN-TEC assembled No. 80-858, $58.00.)

Operate 2 Meters in Any Mode with Your 10 Meter Transceiver!

NEW for 1997
T-KIT Model 1210
10 meter to 2 meter
TRANSVERTER

For only $139, add 2 meters to any HF transceiver. Ideal new use for those idle 10 meter mobile rigs.
Full 10 watts RF output.
ALC-controlled 10M input handles power range of 4 to 20 watts.
Solid-state T-R switching.
Engineered from scratch for optimized 10M-2M conversion performance.
Compact: 1.5"H x 5"W x 8"D.



Model 1210 Transverter
Overview of Mechanical Assembly

Model 1210 Specifications:

● **Frequency Coverage:** 144-148 MHz band, typically 144-145.7 MHz, based on 28-29.7 MHz tuning range of most 10 meter transceivers. 116 MHz local oscillator.
● **Power requirement:** 12-14VDC, 100 mA. receive, 600 mA in transmit with no drive, 2.0A on transmit at 10 watts output.
● **Construction:** Black texture painted clamshell-type steel top and bottom, aluminum panel/chassis and heatsink. One 5.5"X3.75" double-sided circuit board.
● **Semiconductors:** 2 IC's, 13 transistors, 25 diodes. RF final: BLW81.

TRANSMIT:
● **RF Output:** 10 watts maximum on CW and FM, 10 watts PEP on SSB.
● **T/R Switching:** solid state, RF sensing.
● Output Power Adjustment Range: 2 to 10 watts.
● **Spurs and Harmonics:** Greater than -56 dBc at 10 watts out.
● **Standard TX Hang Time:** Approximately 1 second.
● **Input Drive:** Less than 0.5 watts input to key TX mode. 4 watts input for 10 watts output. Input drive level is ALC controlled between 4 and 20 watts. Input SWR less than 1.5:1.

RECEIVE:
● **Noise figure:** less than 2 dB. ● **Conversion Gain:** Approximately 17 dB.
● **Image Rejection:** Greater than 60 dB. ● **Input Intercept:** -6.5 dBm typical.

T-KIT Model 1210 10M-2M Transverter KIT, $139.00.
Model 1210A Factory Assembled, price to be determined.

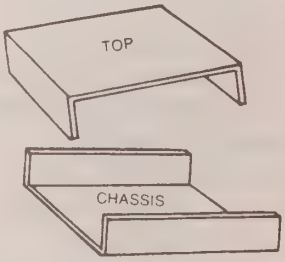
A Neat Bonus for T-KIT Buyers from the TEN-TEC Equipment Enclosure Division!

Unlike other kit companies, a custom-fitted enclosure is not a costly extra for T-KIT. In our plant, we make the right contoured steel enclosure for each kit. In addition, we make beautiful cabinets, panels and racks for other manufacturers (including our many friends with kit businesses!), and we have a line of easy-to-work aluminum cases for YOU, the experimenter and kit builder. TEN-TEC Enclosure Division literature lists OVER 150 different stock enclosure sizes and styles, plus tilt bails, handles, and so forth. From those many pages, here is a selection of practical sizes from our all-aluminum TP and TG series . . . **with discount pricing when ordered WITH any T-KIT purchase!**

TP-Series - Unpainted Bright Aluminum:

(Dimensions in inches are those of top shell, which overhangs chassis by about .125 inch.)

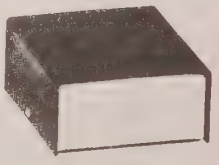
No.	Height	Width	Depth	List	WITH KIT ORDER
TP15	1.50	3.75	3.00	$7.25	$4.20
TP18	1.875	4.50	3.75	$8.50	$4.96
TP19	2.00	4.75	4.00	$8.75	$5.08
TP20	2.125	5.00	4.25	$9.00	$5.20
TP41	2.25	5.50	4.25	$9.50	$5.75
TP43	2.50	6.00	5.00	10.44	$6.35
TP45	2.75	6.50	5.50	12.43	$7.56
TP47	3.00	7.25	6.00	14.37	$8.74
TP50	3.375	8.25	6.375	17.01	$10.34



TG-Series - Baked enamel finish (Black top/sides, Gray panel/chassis):

Height is that of top shell; Width and depth are that of chassis. Rubber bumper feet included.

No.	Height	Width	Depth	List	WITH KIT ORDER
TG24	1.961	4.125	3.869	$11.75	$7.16
TG26	1.961	6.125	3.869	$13.25	$8.13
TG28	1.961	8.125	5.869	$17.16	$10.43
TG34	3.086	4.125	3.775	$13.50	$8.07
TG36	3.086	6.125	3.775	$14.75	$9.00
TG38	3.086	8.125	5.775	$21.33	$12.97



(If you prefer that original TEN-TEC walnut/beige style in the above sizes, simply change "G" to "W" when ordering. Example: TW26 will bring you walnut-clad top and sides, beige front and back.)

Get Acquainted With TEN-TEC's Deluxe "Constructo Series B"!

Ready to make a final and beautiful version of that compact transceiver or test gear or station accessory you've been working on? For a specific size, request our "Constructo B" listing with 20 sizes from 3"X6"X5" through 6"X12"X9". However, you'll find Model BK947 to be perfect for numerous ham designs. Its 4"H X 9"W X 7"D size is virtually identical in size and style to the Heath HW9 transceiver. It's a fine size for antenna tuners, signal generators, power supplies, RF amp for QRP rigs, and on and on. The BK947 (and all in this series) features steel top and bottom clamshell covers plus inner adjustable-height chassis mounted on aluminum side panels, with replaceable eggshell-white front and rear panels.

BK947 (black covers) or BU947 (blue): $56.75. With T-KIT order: ONLY $34.48!

Optional tilt bail no. 91-206: $7.00 (With T-KIT order, $4.72).

REMEMBER: Order as many enclosures as you want at the same time for the special T-KIT price, as long as you are purchasing at least one T-KIT in the same order!

Order Kits by PHONE • FAX • MAIL!

Minimum Order: $15.00 (plus shipping)

Inquiries or Information: 1-423-453-7172

8:00 AM - 5:30 PM Eastern/EDST, Monday-Friday

Credit Card Orders: 1-800-833-7373 (Orders ONLY, please!)

FAX orders or inquiries: 1-423-428-4483

T-KIT Ordering Guide

❑ Please check here if this is your first order of any kind DIRECT from TEN-TEC

NAME _____ Callsign _____ *

STREET ADDRESS _____

UPS requires STREET address for delivery

CITY _____ STATE _____ ZIP _____

PLEASE provide DAYTIME phone or fax number: ( ) _____

* Amateur Radio license required to use transmit-capable T-KIT products. If you are planning to build T-KIT projects to learn more about getting a ham radio license, please check here: ❑

Quantity	T-KIT No.	Description	Price Each	Amount

48 States: Add **$6.00** Shipping & Handling on all orders under $100: _____

OR: Add $9.00 Shipping/Handling on all orders over $100: _____

Alaska, Hawaii, Canada: add $15.00 for UPS to ALL kit orders: _____

Tennessee Customers must add 8.5% State tax: _____

TOTAL PAYMENT ENCLOSED / credit card authorization: _____

PAYMENT BY: ☐ Check ☐ Money Order ☐ VISA ☐ Mastercard ☐ Discover

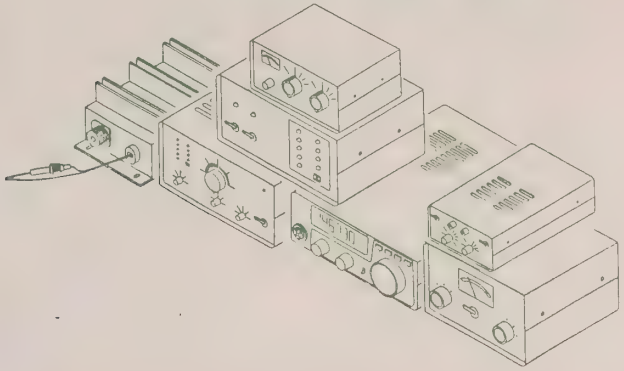
Card No. _____ Expiration Date _____

1. **All payments must be in U.S. Dollars (Sorry, NO C.O.D.)**
2. **Kit parts are warranted for one year to be free from manufacturing defect.**
3. **Any T-KIT may be examined, returned complete and UNASSEMBLED in fully-reuseable condition, within 30 days of shipment date, for full credit or refund, less original shipping/handling charge. Customer pays return shipping.**

Visit our website: **www.tentec.com**

T-KIT
A Division of **TEN-TEC**, Inc.
1185 Dolly Parton Parkway
Sevierville, TN 37862-3710

Now, it's time for T-KITS!



While the Ham/Electronics World has been lamenting the grand old days of kit-building, the TEN-TEC team of hams, engineers and technicians has been working to bring those days back to you!

FIRST CLASS MAIL

TO:

MADE IN USA

TEN-TEC AMATEUR RADIO EQUIPMENT

The CENTURION, HF Linear Amplifier Model 422

The Model 422 Centurion uses the classic pair of 3-500Z tubes. The RF deck and power supply are combined into a single, attractively styled, desk top cabinet. The power output is rated at 1300 watts on ssb, 1000 watts cw and 650 watts using "key-down" modes. Drive required for full power ssb operation is 100 watts. The duty cycle is 50%.

QSK cw is achieved using relay switching and the proven T/R circuit from the Hercules II. This circuit also makes the Centurion ideal for fast switching digital modes. VOX ssb is silky smooth and virtually noiseless. This versatile control system assures compatibility with all exciters with amplifier control provisions.

A tube-axial fan is used for forced air cooling. Air flow is routed through the power supply as well as the upper and lower sections of the RF compartment. Air inlets and outlets are in the sides and top of the cabinet to optimize low pressure, low noise, air movement.

A dedicated meter for plate current, a multi-meter for plate voltage, grid current and forward or reflected power. A full time 10 element LED bargraph instantly displays peak power output.

The Centurion operates on all bands from 1.8 to 21.5 MHz. 21.5 to 29.7 MHz is enabled with the installation of an expansion board, supplied no-charge upon proof of licensed authority.

A tough, easy to handle, amplifier that doesn't really mind a little abuse. The Centurion is a great value.

SPECIFICATIONS

Band Coverage: 1.8-2.0, 3.2-4.7, 6.5-10.3, 13.4-19.6, 17.6-21.5 MHz. 21.5-29.7 MHz after authorized modification.
Input Power: 2000 watts, maximum.
Power Output: 1300 watts ssb, 1000 watts cw. RTTY and SSTV 650 watts, 50% duty cycle.
Drive Power: 100 watts for full rated output.
Efficiency: 50-65%, depending on frequency and load impedance.
Input/Output Impedances: 50 Ohms, unbalanced. SWR ◄2:1.
Distortion: –35 dB from 1 kw rf output level.
Harmonics: –50 dB typical.
CW Break-In: QSK capable. Relay switching.
Tube Compliment: Two 3-500Z.
Power Amplifier Circuit: Class AB2, grounded grid.
Plate Voltage: 3100 volts, no load. 2600 volts, full load.
Cooling: Forced air with full chassis air flow.
Metering: Dedicated plate current meter. Selectable multi-meter for plate voltage, grid current, forward or reflected power. Ten element LED bargraph display for peak power indication.
Front Panel Status Indicators: Standby, operate, transmit.
Primary Power: 220-250 Vac @ 15 A. 110-125 Vac @ 30 A, 50/60 Hz. For full power operation, 220-250 Vac is strongly recommended.

Circuit Protection: Primary line fuses. Plate transformer primary interlock and high voltage shorting bar.
Front Panel Controls: Power on/off, standby/operate, control mode select (QSK - PTT/VOX), plate TUNE and LOAD, band switch, meter switch.
Tune and Load Controls: 6:1 vernier drives with calibrated dial skirts.
Construction: Aluminum chassis, front and rear panels, interior partitions and top and bottom covers.
Size: HWS 8.25″ x 15.25″ x 18.5″. (20.3 x 38.7 x 46.9 cm).
Weight: 47 lbs (21.3 kg).

OUR BEST FEATURE

is one you may never use. Our service and product support are legendary. Proven, not just claimed! All of our products are designed for field service to the board level. When you call us with a service need, you typically talk to one of the techs who services the model you own. Many times service can be accomplished with a "pain-less" mail order board exchange. If factory service is required, the work is thorough, fast and at a fair charge.

For the Builder...

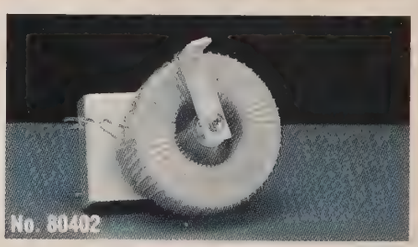
HARD TO FIND TUNER/AMPLIFIER COMPONENTS

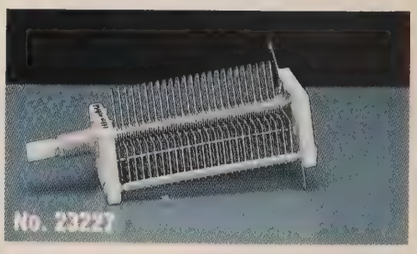
Roller inductor, as used in our Model 238 antenna coupler, kilowatt rated with silver plated wire wound on solid coil form. Excellent roller and rotary inductor mechanical design for years of trouble free service. Inductance variable from .1 to 19 uH. Part number 81040.

Kilowatt variable capacitor, as used in the Titan amplifier and Model 238 antenna coupler. Variable from 40 to 500 pF at 3.5 kv. Part number 80858-1.

Tapped inductor wound on a powdered iron core, as used in our Model 254, 200 watt antenna coupler. Variable in 47 steps from .1 to 20 uH. Part number 80402.

Variable capacitor, as used in our Model 254, 200 watt antenna coupler. Tuning range is 1 to 207 pF @ 1 kv. Part number 23227.





TEN-TEC, INC.

1185 Dolly Parton Parkway Sevierville, TN 37862-3710 Phone (423) 453-7172 Fax (423) 428-4483

Dear OM/YL:

Thank you for your inquiry and interest in TEN-TEC products. Literature on our complete line is enclosed.

Marketing of amateur products has changed dramatically in recent years. There was a time when a ham could buy everything for the shack from a local dealer and receive helpful advice and assistance. This has changed.

Today, there are few local dealers. Shopping is usually done by using "800" numbers for the best price. The dealer is merely a broker and must add his operating costs and profit. This, obviously, increases your cost.

We are breaking with tradition and now offer TEN-TEC products direct from our factory at new low factory direct prices.

You get much more than a price advantage. You receive personal assistance from active hams and highly qualified technicians before and after the sale.

Order Factory Direct toll free at 800-833-7373.

Further, you receive brand new equipment with the latest updates. If not completely satisfied, you may return it for a full refund within 30 days*.

All TEN-TEC gear is built in our modern 40,000 sq. ft. plant in Tennessee. We invite you to visit us and share our pride in keeping American made equipment the finest on the world market.

73,

Jack

Jack Burchfield, K4JU
President

Tom

Tom Salvetti, KC3NF
Vice President

*less shipping and handling

FREQUENT QUESTIONS and OBSERVATIONS

OUR ANSWERS and COMMENTS

Here are some common questions from folks we meet on the phone and at hamfests. Many are prospective customers who have never used TEN-TEC gear.

1. SURE DOESN'T WEIGH MUCH! Our chassis is all aluminum. The long term reliability of aluminum, and its characteristics in RF devices, is better than steel. That (and weight) is why virtually all MIL spec gear calls for aluminum construction. Steel is preferred by our competition because it is readily available in Japan. Aluminum must be imported which makes it more expensive. Using steel and a built-in power supply would result in 60 lb. transceivers from TEN-TEC, too.

2. WHY NO BUILT-IN POWER SUPPLY? We like the idea of keeping the heat from the power supply out of the transceiver. We also prefer 12 VDC transceivers which make emergency battery operation practical. The rig is also a much better "traveller" whether operating portable or shipping the unit. Keeping the 50/60 Hz primary power contained in a separate enclosure contributes to lower receiver noise. This engineering practice contributes to our reputation for quiet receivers.

3. WHY NO BUILT-IN ANTENNA TUNER? Our competitors' final amplifier designs can not tolerate anything but a near perfect SWR. They incorporate a SWR fold-back circuit for protection. TEN-TEC's final amplifier uses only a current limiting circuit to protect the transistors. As a result, we do not require "load trimming" and are quite happy with a load impedance in the 25 - 100 ohm range. The built-in tuners will match a typical impedance range of 15 - 130 ohm. If you are using a non-resonant antenna for multi-band operation, the built-in tuner is of little value. Separate tuners will match practically any load impedance, whether single wire, balanced line or coax fed. The circuitry required to do this is best utilized when packaged as a "stand-alone" station accessory.

4. WHAT ABOUT SERVICE? You may never need one of our very best features. Our service reputation has become legendary. TEN-TEC gear is field serviceable with most circuit boards easily replaceable. In many cases, we can send a replacement board and your rig never leaves the shack. There is no charge for this service during the warranty.

5. IS IT ACTUALLY BUILT IN THE USA? Absolutely! We even make many of our own components. The entire enclosure including the molded parts, PC boards and transformers are built in this plant. We also have our own tool and die shop.

6. HOW CAN I BE SURE MY RIG MEETS SPECS? Each individual PC board must pass rigid testing. The boards are then assembled into a complete transceiver. It goes through a final alignment and 12 hours on the burn-in rack constantly cycling from transmit to receive and back again. Next comes a vibration test. Finally, the rig is thoroughly tested and aligned for proper sensitivity, power output, CW waveshape, audio quality, etc.

7. WHAT PRECAUTIONS ARE NEEDED WITH SOLID STATE FINALS? None with TEN-TEC. You can remove the antenna or short circuit it without harm. Our final is protected. Only a lightning strike can damage it.

8. WHY IS THE CENTURION ONLY 1200 instead of 1500 watts? Our competition runs the same tube complement at a higher plate voltage. The difference in signal strength is a fraction of an "S" unit but the cost savings to you is significant because of our extended tube life.

IN SUMMARY, when we set about the business of designing a new product, our engineering priorities are:

PERFORMANCE
RELIABILITY
OPERATING CONVENIENCE
SERVICEABILITY
STYLING
COST EFFECTIVENESS

..... in that order. We hope our priorities match yours.

TEN-TEC, Inc.
1185 Dolly Parton Parkway
Sevierville, TN 37862
U.S.A.

Order Line 800-833-7373
Technical Info 423-453-7172
Service Dept 423-428-0364
FAX 423-428-4483

TEN-TEC INC
1185 DOLLY PARTON PARKWAY, SEVIERVILLE, TENNESSEE 37862
423-453-7172

AMATEUR PRODUCTS PRICE SCHEDULE

Effective March 13, 1997

MODEL	DESCRIPTION	Shp. Wt lbs/Kg	FACTORY DIRECT PRICE
216	500 Hz 6 Pole FSK Filter, 9 MHz (for 562 / 563 narrow position; 546)	1/0.45	89.00
217	500 Hz 8 Pole Ladder Filter, 9 MHz (for 562 / 563 narrow position; 546)	1/0.45	89.00
218	1.8 KHz 8 Pole Ladder Filter, 9 MHz (for 562 / 563 narrow position; 546)	1/0.45	89.00
219	250 Hz 6 Pole Ladder Filter, 9 MHz (for 562 / 563 narrow position; 546)	1/0.45	89.00
220	2.4 KHz 8 Pole Ladder Filter, 9 MHz (for 562 / 563 narrow position; 546)	1/0.45	89.00
236	Remote Control Cable for connecting Models 562, 563, 585, or 586 to either a Model 253 or a Model 420	1/0.45	49.00
238	2 KW Antenna Tuner/SWR Bridge (1.8 -30 MHz)	14/6.6	395.00
239	300 Watt Dummy Load	1/0.45	27.95
257	Voice Synthesizer for Models 562/563/585/586	1/0.45	95.00
259	Universal ALC Annunciator	1/0.45	34.00
264	236 Expansion Cable for connecting Model 253/420 combination to 562/563/585/586	1/0.45	36.00
282	250 Hz 6 Pole Ladder Filter, 6.3 MHz	1/0.45	89.00
285	500 Hz 6 Pole Ladder Filter, 6.3 MHz	1/0.45	89.00
288	1.8 KHz 8 Pole Ladder Filter, 6.3 MHz	1/0.45	89.00
291	200 Watt Antenna Tuner	4/1.8	89.00
296	Mobile Mount for 555	3/1.35	15.00
297	Noise Blanker for 555	1/0.45	19.50
300	Remote Control Extension Cable, 12 FT., for Model 9423, if needed	1/0.45	45.00
306	Plug adaptor, 4-pin power supplies to 2-pin 535 or 536	1/0.45	5.00
411	CENTAUR Linear Amplifier, 600 W output, 1.8-23 MHz, w/built-in power supply	46/21	749.00
411E	CENTAUR Linear Amplifier, 600 W output, 1.8-30 MHz, w/built-in power supply (Export Only)	46/21	749.00
420	HERCULES II Linear Amplifier 500 W output,Solid State No Tune, 1.8 -23 MHz,13.5Vdc (Power supply not included)	25/11.4	1395.00
420E	HERCULES II Linear Amplifier (Power supply not included) 500 W output,Solid State No Tune, 1.8-30 MHz,13.5 Vdc.(Export only)	25/11.4	1395.00
422	CENTURION Linear Amplifier 1.0 KW output, 1.8-23 MHz, with built-in Power Supply	70/32	1795.00
422WO	CENTURION Linear Amplifier 1.0 KW output, 1.8-23 MHz, built-in P. S., without tubes	65/30	1495.00
422E	CENTURION Linear Amplifier 1.0 KW output, 1.8-30MHz, built-in Pwr. Supply (Export Only)	70/32	1795.00
422EWO	CENTURION Linear Amplifier 1.0 KW output, 1.8-30 MHz, built-in P.S.,w/o tubes (Export Only)	65/30	1495.00
425	TITAN Linear Amplifier, 1.5 KW output, 1.8-23 MHz w/built-in Power Supply (UPS Shipping, 3 boxes)	82/37.3	3375.00
425E	TITAN Linear Amplifier, 1.5 KW output, 1.8-30 MHz, w/built-in Power Supply (Export Only)	82/37.3	3375.00
555	SCOUT HF Transceiver, 50W, SSB/CW, with 1 Band Module, others available	9/4.05	549.00
556	ARGO HF Transceiver, 5W, SSB/CW, with 1 Band Module, others available	9/4.05	489.00
564	OMNI VI Plus HF Transceiver, 100 W,SSB/CW/FSK/FM , 9 Band, DSP	25/11.4	2585.00
607	Single Paddle Assembly for 555/563	3/1.35	39.00
701	Handheld Mic., Coiled Cord and 4 Pin Connector (535,536,561,562,555,563,585,586)	1/0.45	24.00
705	Desk Mic, Coiled Cord and 4 Pin Connector (536,561,562,555,563,585,586)	2/0.90	79.95
801	160M Band Module for Model 555 SCOUT	1/0.45	29.00
802	80M Band Module for Model 555 SCOUT	1/0.45	29.00
803	40M Band Module for Model 555 SCOUT	1/0.45	29.00
804	30M Band Module for Model 555 SCOUT	1/0.45	29.00
805	20M Band Module for Model 555 SCOUT	1/0.45	29.00
806	17M Band Module for Model 555 SCOUT	1/0.45	29.00
807	15M Band Module for Model 555 SCOUT	1/0.45	29.00
808	12M Band Module for Model 555 SCOUT	1/0.45	29.00
809	10M Band Module for Model 555 SCOUT, 28.0 - 29.0 MHz	1/0.45	29.00
937	Power Supply, 115 VAC Only, 13.8VDC, 11A inter., 7A cont for Model 555 SCOUT	14/6.6	79.00
962	Power Supply, 115/230 VAC, 13.8VDC, 22 A, built-in Spkr for 561,562,563,585,586.	21/9.5	275.00

ORDER TOLL FREE 1-800-833-7373

MODEL	DESCRIPTION	Shp. Wt lbs/Kg	FACTORY DIRECT PRICE
2991	Extra 450 mAH Battery Pack, for Model 2591/TT920	1/0.45	43.00
9420	Power Supply for HERCULES II and Exciter 230 VAC,13.5 Vdc. @ 100 A. (Motor Frt.)	75/34	749.00
9421	Spare DC Power Connector, for Model 420	1/0.45	8.50
9422	DC Power Pigtail, for Model 420 Mobile Installation	1/0.45	20.00
9423	Remote Control Head with 12 FT. Cable, for Model 420	3/1.35	135.00
23-227	Variable Capacitor, 1-207 pF @ 1kv, as used in Model 291	1/0.45	21.00
35057	4 Pin Microphone Connector	1/0.45	3.00
80-402	Tapped Inductor, 47 steps, 0.1-20 µH, as used in Model 291	2/0.9	24.00
80-572	Spare, 4 Pin DC Connector	1/0.45	3.00
80573	2 Pin DC Power Connector (555,535,536)	1/0.45	3.00
80-858	Variable Capacitor, 40-500 pF @ 3.5kv, as used in Model 238	2/0.9	58.00
81-040	Roller Inductor, 0.1-19 µH, silver plated, as used in Model 238	2/0.9	62.00
86034-66	DC 2 Pin Cable as used with 535,536	1/0.45	5.00
86055	DC 4 Pin Cable as used with 563,585,586	1/0.45	5.00
86067	DC Cable for Model 555 SCOUT only	1/0.45	5.00
RM-238	Rack mount kit, Model 238 antenna tuner	2/0.9	24.00
RM-253	Rack mount kit, Antenna Coupler 253	2/0.9	24.00
RM-420	Rack mount kit, Hercules II 420	2/0.9	24.00
RM-425	Rack mount kit, Titan 425	2/0.9	24.00
RM-500	Rack mount kit, 562/585/563/586	2/0.9	24.00
RM-P0175-19	1-3/4" Blank Panel	1/0.45	6.00
RM-P0700-19	7" Blank Panel	2/0.9	15.00
RM-19-1750	19" Cabinet with 17-1/2" opening, with side mounted hand grips.	35/15.9	225.00

PAYMENT: We accept VISA, MASTERCARD, and DISCOVER. Please provide complete name, account number and expiration date. Money Orders, Cashiers Check and Personal Checks are also accepted. Please note personal checks may require up to 10 days to clear before shipment is made. TN. residents must add 8-1/2% sales tax.

*SHIPPING: We have a minimum shipping and handling charge of $6.00 on all orders.Most shipments are made by UPS Surface or First Class Mail. Other services available by quotation. To calculate your shipping/handling/insurance charge, total the shipping weight (listed next to price) for each item ordered and reference the chart below.

Total Shipment Weight

A - Under 3 lbs.
B - 3-9 lbs.
C - 10-19 lbs.
D - 20-34 lbs.
E - 35-69lbs.
F - 70-100 lbs.

Location	A	B	C	D	E	F
Continental US	6.00	9.00	15.00	20.00	31.00	60.00
Alaska, Hawaii(2nd day)	15.00	20.00	30.00	60.00	90.00	130.00
Canada	Call toll free for a quotation.					

ORDER TOLL FREE 1-800-833-7373 or FAX 423-428-4483

This price list is effective March 13, 1997

ORDER FORM

TEN-TEC, INC
1185 DOLLY PARTON PKWY
SEVIERVILLE, TN 37862

FAX: 423-428-4483
PHONE: 423-453-7172
ORDER TOLL FREE: 800-833-7373

Please PRINT Name, Address and Phone Number:
UPS Requires Street Address, **NO** P.O. Boxes Please

DATE _____

NAME _____ DAY PHONE NUMBER _____

STREET ADDRESS _____ ROUTE _____ APT. NO. _____

CITY _____ STATE _____ ZIP CODE _____

PLEASE SHIP THE FOLLOWING ITEMS:

QUANTITY	MODEL	DESCRIPTION	SHIP WT.	PRICE EACH	TOTAL

THIS ORDER TO BE PAID BY:	TOTAL WT.		TOTAL FOR GOODS	
			TENN. RESIDENTS ADD 8½% SALES TAX	
☐ PERSONAL CHECK ☐ MONEY ORDER ☐ CREDIT CARD			SHIPPING CHARGES SEE BACK PAGE	
FOR CREDIT CARDS COMPLETE INFORMATION BELOW.			**TOTAL**	

CREDIT CARD INFO: ☐ VISA ☐ M/C ☐ DISCOVER

CARD #: _____ EXP. DATE: _____ AUTH.#: _____

SPECIAL INSTRUCTIONS _____

PAYMENT TERMS

We accept VISA, MASTERCARD, and DISCOVER. Please provide complete name, account number and expiration date. Money Orders, Cashiers Check and Personal Checks are also accepted. Please note personal checks may require time to clear before shipment is made. Tennessee residents must add 8.5% sales tax.

CHARGES FOR SHIPPING, HANDLING AND INSURANCE

Most shipments are made by UPS Surface or First Class Mail. Other services are available by quotation. To calculate your shipping/handling/insurance charge, total the shipping weight (listed next to price) for each item ordered and reference the chart below.

Total Shipment Weight

A - Under 3 lbs. D - 20-34 lbs.
B - 3-9 lbs. E - 35-69 lbs.
C - 10-19 lbs. F - 70-100 lbs

Location	A	B	C	D	E	F
Continental US	6.00	9.00	15.00	20.00	31.00	60.00
Alaska, Hawaii	15.00	20.00	30.00	60.00	90.00	130.00
Canada	Call toll free for a quotation.					

New! FROM TEN-TEC

CENTAUR

AN AFFORDABLE HF LINEAR AMPLIFIER

$749

Most hams who frequent the HF bands eventually yearn for that extra punch an amplifier can add to their signal. We might all thirst for one of those legal-limit "powerhouse" amps but the family budget often demands a more affordable approach. Our new CENTAUR is only $749 and packed with all the essentials for SSB, CW and even digital modes.

Your 100 watt transceiver will drive CENTAUR to 600 watts output. Run full power in a QSO for as long as you like in SSB and even CW mode. It's built to take the abuse! The RF deck and power supply are housed in a single, attractive, desk top enclosure that looks great in any ham shack.

Competition has long offered low priced amps but our goal was to do more. We wanted to offer the best VALUE in the industry. Compare for yourself —

	CENTAUR	COMPETITION
Full Break-in CW	Yes	No
Hot Switching Protection	Yes	No
Built-in Wattmeter	Yes	No
Cooling Fan	100 CFM	25 CFM
Power Transformer	21 lbs	17 lbs
Filter Capacitor Rating	2000 volt	1800 volt
Matched Rectifiers	Yes	No

CENTAUR carries the usual TEN-TEC one year warranty on both parts and labor. And our legendary service is there to back you up if you ever need it. SVETLANA warrants the tubes separately. If a tube fails, replacement is free during first 100 hours of use, cost is pro-rated up to 1000 hours use during the first year.

AVAILABLE: SUMMER, 1996

TEN-TEC, INC.
1185 Dolly Parton Parkway
Sevierville, TN 37862

Phone 423-453-7172
Fax 423-428-4483
Order Toll-Free 800-833-7373

SPECIFICATIONS

Band Coverage: 160, 80, 40, 30, 20, 17 and 15 (12 and 10 meters for authorized users)

Power Output: 600 watts SSB/CW on 80 thru 15 meters, 500 watts on 160 meters and 10 meters. 400 watts RTTY/SSTV. 50% duty cycle

Drive Power: 90 -100 watts typical for rated output.

Tube Complement: 3 Svetlana 811A Triodes, class AB2 in grounded grid.

Plate Voltage: 1800 volts no load, 1500 volts full load.

Efficiency: up to 70% depending on frequency and load impedance.

Harmonics: meets or exceeds FCC requirements.

Full Break-in: built-in with T/R switching time less than 7 milliseconds.

Primary Power: 12 amps @ 120 VAC, 6 amps @ 240 VAC, 50/60 Hz. Shipped factory wired for 120 VAC, easily changed to 240 VAC through access panel on rear.

Safety: plate transformer primary interlock and high voltage shorting bar.

Input/Output Impedances: 50 ohms, unbalanced.

Cooling: 4" 100 CFM tube-axial fan, all metal frame.

Metering: forward power, grid current, plate voltage and plate current.

Front Panel Controls: plate TUNE and LOAD, band switch, operate/standby, QSK/PTT, meter switches for plate current/plate voltage and grid current/forward power, power on/off.

Construction: aluminum chassis, front and rear panels. Steel top and bottom covers.

Size: HWD 6" x 15.5" x 13" (15.2 x 39.4 x 33 cm).

Weight: 40 lbs. (18.145 Kg).

SCOUT Model 555

Back to Basics - With Real Performance

STANDARD FEATURES

- One Band module of your choice
- Legendary QSK
- Built-in iambic keyer
- Receive Offset Tuning
- "S" Meter in receive
- FWD power or SWR in transmit
- Adjustable TX output power
- Built-in 3" speaker
- Connection for external speaker or headphones
- Band Modules automatically select normal sideband

SIMPLE: SSB or CW, just sit down and operate! Master every feature in a few minutes - no modern rig is as easy to use. Simply plug in the desired band module and work any band 160-10 meters, including WARC.

"It only takes a second to change bands."

SMALL: At half the size of other "small" transceivers, SCOUT makes mobile and portable operation a cinch. This 5-lb. travel companion even fits in a briefcase. Try that with other HF rigs! Measures only 2.5"x7.25"x9.75".

SELECTIVE: Revolutionary, patented "Jones" filter. A variable bandwidth 9 pole crystal filter from 500 Hz to 2.5 KHz. The right filter for every band condition at the turn of a knob. No need to buy expensive accessory filters.

TOUGH: Single conversion and crystal mixing are the foundation of this 90 dB dynamic range receiver. That's the strong signal handling performance of rigs costing 3 times as much!

POWERFUL: 50 watts output is enough power to work the world, even for a new ham. And power to spare for the skilled amateur. Runs directly off 12 volts for easy installation in your car, truck, or boat. Draws 600mA on receive, 10 amps maximum in transmit. The optional noise blanker reduces ignition noise from both your car and the one that just drove by.

SMART: TEN-TEC's exclusive "FLS" frequency lock system keeps VFO virtually drift free regardless of temperature variations. The "RISC" microprocessor running at 5 MIPS also manages the large digital display and built-in iambic keyer.

LOW PRICE: Its closest competition is nearly twice the price. No other rig offers so much performance at so low a price. SCOUT is the most economical way to get started in HF.

SCOUT is "back to basics" and redefines value for the active amateur yearning for a second rig or the new ham searching for an affordable way to experience the world of HF communications.

...America's Best!

TEN-TEC

SCOUT ACCESSORIES

Model 801, 160 meter plug-in band module
Model 802, 80 meter plug-in band module
Model 803, 40 meter plug-in band module
Model 804, 30 meter plug-in band module
Model 805, 20 meter plug-in band module
Model 806, 17 meter plug-in band module
Model 807, 15 meter plug-in band module
Model 808, 12 meter plug-in band module
Model 809, 10 meter plug-in band module
(28.0 - 29.0 MHz)

Model 937, Power Supply - Matches SCOUT, 115 VAC, 60 Hz input. 13.8 VDC, 11 amp output @ 50% duty, 7 amp continuous. DC output binding posts, Fold-back current limiting, over voltage protection.

Model 297, Noise Blanker, effective on ignition and some impulse type line noise, field installable.

Model 296, Mobile bracket mounts on top or bottom of transceiver in 4 positions.

Model 607, Weighted key paddle, single paddle style with adjustable spacing.

Model 701, Handheld mike, electret with coiled cord and 4-pin connector.

Model 705, Desk mike, electret with coiled cord and 4-pin connector.

Model 291, 200 watt antenna tuner, "T" match circuit matches variety of unbalanced antenna systems.

GENERAL SPECIFICATIONS

MODES: CW, LSB, USB (Normal sideband for the band in use)

FREQUENCY RANGE: All ham bands 160 through 10 meters available through plug in modules. Overshoot at upper and lower edges.

DISPLAY: 4 digit to 100 Hz resolution, .56" LED

FREQUENCY CONTROL: Permeability tuned oscillator (PTO) mixed with a crystal oscillator for each band.

OFFSET TUNING: +/- 1 KHz nominal - receive

FREQUENCY ACCURACY: +/- 100 Hz @ 25 deg. C.

ANTENNA: 50 ohms unbalanced.

POWER REQUIRED: @ 12-14 VDC; 600 ma receive, 10 A transmit @ 50 watts out, 4.5 A @ 5 watts out.

CONSTRUCTION: G10 epoxy glass boards, most field replaceable. Molded plastic front panel, aluminum chassis, steel top and bottom.

DIMENSIONS: HWD 2.5" x 7.25" x 9.75" - 6.4 x 18.4 x 24.8 cm

WEIGHT: 5 lbs, 3 oz - 2.4 kg

TRANSMITTER

RF OUTPUT: 50 watts, ALC controlled, internal adjustment to reduce power to 5 watts.

DC INPUT: 125 watts maximum @ 14 volts, SSB and CW duty cycle only.

MICROPHONE INPUT: 200 to 100K ohms, accepts microphones with 5 mv (-62db) output. Polarizing voltage provided for electrets.

T/R SWITCHING: PTT on SSB, QSK on CW

IAMBIC KEYER: Adjustable 5 - 50 WPM. Curtis type B, 15% fixed weighting.

CW OFFSET: 750 Hz

METERING: SWR or FWD power, rear panel switched.

SSB GENERATION: Balanced modulator, 9 pole crystal filter.

CARRIER SUPPRESSION: -45dB typical

UNWANTED SIDEBAND: -45 dB typical at 1.5 KHz tone.

THIRD ORDER INTERMOD: 30 dB below two tone @ 50 watts PEP.

RECEIVER

SENSITIVITY: .35 µV typical for 10 dB S+N/N @ 2.5 KHz bandwidth.

SELECTIVITY: "Jones" 9 pole crystal filter front panel adjustable 500 Hz to 2.5 KHz (Patent #5051711).

DYNAMIC RANGE: 85 dB @ 2.4 KHz bandwidth at 20 KHz spacing.

THIRD ORDER INTERCEPT: +1 dBm

NOISE FLOOR: -126 dBm typical

S-METER: Calibrated for 50 µV at S9

I-F FREQUENCY: 6.144 MHz

NOISE BLANKER: Optional plug-in board

AUDIO: 1 watt @ 4 ohms with less than 2% distortion

SPEAKER: 3 inch

...America's Best!

TEN-TEC

1185 Dolly Parton Parkway
Sevierville, TN 37862, U.S.A.
Orders: 800-833-7373
Office: (423) 453-7172
Fax: (423) 428-4483
Repair Dept.: (423) 428-0364
e-mail: sales@tentec.com
web site: http://www.tentec.com

MADE IN USA

OMNI-VI *PLUS*

Model 564

TEN-TEC

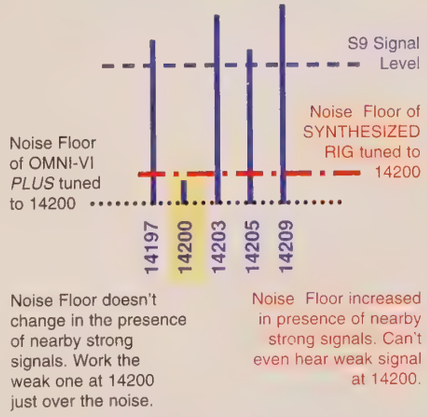
It took nearly 30 years of highly focused engineering to produce the OMNI-VI *PLUS*. Our passion is to provide the finest possible performance to meet the demands of even the most serious DXers and contesters. The design platform of this latest OMNI evolved meticulously from 12 previous transceivers, each pushing performance thresholds a little further. Suggestions from present TEN-TEC owners made immeasurable contributions to this product. Take a look and judge for yourself.

YOU CAN'T WORK WHAT YOU CAN'T HEAR

Technology has advanced to the point where most high performance rigs on the market have excellent strong signal handling capability. The real design challenge is to hear the weak signals between the strong ones when the band is crowded. The best synthesizers just don't measure up. OMNI-VI *PLUS* is unique - it's the only rig with crystal mixing to essentially eliminate this phase noise problem.

Let's compare OMNI to any competitor's synthesized rig with both tuned to the same frequency.

5 Typical Signals on a Crowded Band



Noise Floor doesn't change in the presence of nearby strong signals. Work the weak one at 14200 just over the noise.

Noise Floor increased in presence of nearby strong signals. Can't even hear weak signal at 14200.

Phase noise generated *inside* the competitor's rig causes the noise floor to *temporarily* increase, covering weak signals *inside* your passband, especially when strong signals *outside* your passband are within a few kHz of where you'd like to listen. The bottom line - hear weak signals under the worst band conditions, signals our competition can't hear!

SELECTIVITY

Superior selectivity eliminates interference from even the closest signals. Achieved by cascading optional filters from both I-Fs. Provides up to 4 choices of bandwidth in the 6.3 MHz I-F and 3 choices in the 9 MHz I-F, close to the antenna where they belong. That's 20 - 24 poles of filtering! Two of the 7 filters are standard, add only the options that fit your personal operating. All filters can be selected independent of mode.

THE POWER OF DSP

DSP technology provides amazing benefits for both SSB and CW. OMNI-VI *PLUS* includes single button DSP NOISE REDUCTION. A 5 to 15 dB reduction of broadband noise is typical - makes signals leap out of the noise. DSP AUTO NOTCH instantly eliminates interfering carriers - now work 40 meters day or night. DSP LOW PASS provides 5 choices to cut the highs "just the way you want" to reduce listening fatigue. Rig even remembers your separate choices for SSB and CW. The DSP processor also generates the CW transmit offset, adjustable 400 - 990 Hz, with auto tracking sidetone. This is audio level DSP at its very best.

QUALITY CONTROL....BACKED BY LEGENDARY SERVICE

Rigorous computer-controlled tests exercise every OMNI. Made possible by the rig's high speed PC Interface coupled to automatic test equipment. Our own custom software runs the entire process. There's also an overnight burn-in. Each rig transmits into a dummy load, cycling between TX and RX every few seconds, changing bands along the way. One final performance check by experienced hams finishes up the test. Reliability out of the box and for years to come - backed by our legendary TEN-TEC service.

AS MUCH COMPUTER AS TRANSCEIVER

Powerful microprocessor delivers the latest digital features. Changing frequency has never been easier with direct keypad entry, single button band change and band stacking registers.

Lightning fast QSK for CW and AMTOR and adjustable delay on SLOW QSK. Look at this lineup of other digital features: dual VFOs, +/-10 KHz RIT/XIT, full time clock, iambic keyer, 100 memories, and scratch pad. Four ways to use memories are provided: Memory Scroll, Memory Tune, Channel Scan, and Band Scan.

"SPORT" PC Interface (Serial Port Operation of Receive and Transmit) is an enhanced high speed interface. It runs up to 19200 baud for minimum "wait" time under PC control. Two choices of output ports are provided. Compatible with most major software.

EVERY OMNI IS UNIQUE

Sixteen different features can be set to suit your personal operating style. Three short menus for easy access. Factory presets get you on the air immediately, so you can customize at your leisure. See the highlights below:

- Select favorite tuning rate for MAIN tuning and another for RIT, one set for SSB and another for CW!
- Choose your priority - Direct keypad entry or single button band select.
- Clock - Full time or on demand
- Display Intensity - 16 levels
- Audio Keypad Annunciator - ON or OFF
- PC Interface Speed - 1200 to 19200 baud
- Keyer - type A or B
- Front Panel Control of VOX, sidetone, keyer speed, and weight

THE FINAL TOUCHES

Front panel layout is meant to use not just admire; 100% duty cycle final is so rugged it doesn't require SWR foldback; Main tuning knob is die cast aluminum coupled to a high resolution encoder for a smooth feel with adjustable torque; Each band crystal is phase locked to oven-stabilized time base for frequency stability.

OMNI-VI *PLUS* ACCESSORIES

Model 962, Power Supply/Speaker - Matches OMNI-VI, 115/230 VAC, 50/60 Hz input. 13.8 VDC, 22 A output. Resetting electronic latching circuit breaker limits current to protect transceiver. Output cable is 4-pin AMP MATE-N-LOC which connects directly to OMNI-VI.

Model 705, Desk Microphone, electret with coiled cord and 4-pin connector

Model 701, Hand Microphone, electret with coiled cord and 4-pin connector

Model 257, Voice Synthesizer - Plug-in board announces frequency displayed when VOICE button is pressed.

6.3 MHz I-F Filters (choose up to 3):
- Model 282 - 250 Hz, 6 pole ladder CW filter
- Model 285 - 500 Hz, 6 pole CW
- Model 288 - 1.8 kHz, 8 pole SSB

9 MHz I-F Filters (choose any 2):
- Model 216 - Special 500 Hz, 6 pole, centered for digital modes
- Model 217 - 500 Hz, 8 pole ladder CW filter
- Model 218 - 1.8 kHz, 8 pole SSB
- Model 219 - 250 Hz, 6 pole CW
- Model 220 - 2.4 khz, 8 pole SSB

GENERAL SPECIFICATIONS

MODES: USB, LSB, CW, FSK, or AFSK, FM

FREQUENCY RANGE: All ham bands 160 through 10 meters, Twelve 500 kHz segments with 30 kHz overshoot at upper and lower band edges.

DISPLAY: 7 digit to 10 Hz resolution, .56" LED, 2 secondary .3" displays for clock, memory channel and offset.

FREQUENCY CONTROL: LO generated with a crystal oscillator mixed with low noise 4.97 - 5.53 MHz phase locked loop.

DUAL VFOs with SPLIT mode.

OFFSET TUNING: +/- 9.99 kHz receive and transmit.

MEMORIES: 100 duplex memories, one scratch pad memory, battery back-up (2 - 3 year life)

PC INTERFACE: Serial port operation of receive and transmit. Includes two line and RS-232 interface. Runs at 1200, 2400, 4800, 9600, or 19200 baud.

FREQUENCY ACCURACY: +/- 50 Hz @ 25 degrees C.

ANTENNA: 50 ohms unbalanced.

REMOTE BAND SWITCHING: Selects antenna or other station accessories.

POWER REQUIRED: 2 A receive, 20 A transmit @ 12 - 15 VDC

CONSTRUCTION: 20 epoxy glass PC boards, most field replaceable. Extruded aluminum front panel, aluminum chassis, texture painted top & bottom, snap up stainless steel bail.

DIMENSIONS: HWD 5.75" x 14.75" x 17" - 14.6 x 37.5 x 43.2 cm

WEIGHT: 16 lbs - 7.25 kg

TRANSMITTER

RF OUTPUT: 0 - 100 watts, ALC stabilized

DC INPUT: Maximum 250 watts @ 14VDC. 100% duty cycle for up to 20 minutes. Continuous duty with customer supplied air cooling of rear panel heat sink.

MICROPHONE INPUT: 200 to 50K ohms, accepts microphones with 5 mv (-67db) output. Polarizing voltage provided for electrets.

SPEECH PROCESSOR: Adjustable compression level.

T/R SWITCHING: PTT or VOX on SSB, switchable FAST or SLOW QSK on CW, delay on SLOW is adjustable

IAMBIC KEYER: Adjustable 10 - 60 WPM, type A or B, weight adjustable from keypad.

CW OFFSET: Programmable 400 - 990 Hz, DSP generated, sidetone automatically matches offset; volume adjustable independent of AF gain control.

FSK SHIFT: 170 Hz

FM DEVIATION: +/- 5 kHz

METERING: Switchable to forward power, SWR, collector current or audio processing level on SSB.

SSB GENERATION: Balanced modulator followed by 9 MHz, 8 pole crystal ladder filter.

CARRIER SUPPRESSION: 60dB typical

UNWANTED SIDEBAND SUPPRESSION: 60 dB typical at 1.5 kHz tone.

THIRD ORDER INTERMOD: 30 dB below two tone @ 100 watts PEP.

SPURIOUS OUTPUT: Better than 45 dB below peak power output.

RECEIVER

SENSITIVITY: .16 µV for 10 dB S+N/N @ 2.4 kHz bandwidth. In FM, .35 µV for 12 dB SINAD at 15 kHz bandwidth.

SELECTIVITY: Standard 16 pole filter, 20 to 24 poles cascaded depending on options selected:

FILTER COMBINATION		TYPICAL SYSTEM BANDWIDTH		SHAPE FACTOR
9 MHz IF	PBT IF	@-6 dB	@-60 dB	
2.4 kHz	2.4 kHz	2.4 kHz	3.2 kHz	1.30
2.4 kHz	1.8 kHz*	1.8 kHz	2.7 kHz	1.50
2.4 kHz	500 Hz*	500 Hz	1.3 kHz	2.60
2.4 kHz	250 Hz*	250 Hz	850 Hz	3.40
1.8 kHz*	1.8 kHz*	1.7 kHz	2.4 kHz	1.40
500 Hz*	500 Hz*	350 Hz	900 Hz	2.60
250 Hz*	250 Hz*	190 Hz	550 Hz	2.90

**Optional filter is required*

DYNAMIC RANGE: 97 dB @ 2.4 kHz bandwidth at 20 kHz spacing, 100 dB + with CW filters.

THIRD ORDER INTERCEPT: +10 dBm

NOISE FLOOR: -133 dBm @ 2.4 kHz bandwidth

PHASE NOISE: -122 dBc @ 1 kHz, -138 dBc @ 20 kHz

S-METER: Calibrated to 50 µV at S9

ATTENUATOR: -20 dB

PASSBAND TUNING: +/- 1.5 kHz

I-F FREQUENCIES: 1st I-F 9 MHz, 2nd I-F 6.3 MHz, 2nd I-F for FM 455 kHz

NOISE BLANKER: adjustable threshold

DSP NOISE REDUCTION: Auto-correlation type algorithm. Broadband noise reduction of 5 to 15 dB is typical depending on conditions.

AUTOMATIC DSP NOTCH FILTER: Eliminates multiple heterodynes, notch depth automatically selected for each.

MANUAL NOTCH FILTER: 200 Hz to 2.5 kHz, greater than 50 dB

RECEIVE RECOVERY TIME: Less than 20 ms, including split mode

SQUELCH SENSITIVITY: Less than .6 µV

IMAGE REJECTION: >90 dB

I-F REJECTION: >90 dB

AUDIO: 1.5 watts @ 4 ohms with less than 2% distortion, built-in speaker, separate fixed output 1 mw @ 600 ohms.

SEPARATE RX ANTENNA INPUT: 50 ohm phono jack, front panel selectable

...America's Best!

TEN-TEC

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MADE IN USA

The HERCULES II, Solid State Kw Linear Amplifier Model 420

High tech simplicity, base or mobile. A compact, lightweight HF amplifier that offers a unique combination of virtues that can only be achieved using modern, solid state technology. Instant on, 12 - 14 Vdc operation, general coverage from 160 through 10 meters, no-tune operation and compact size. Add to that, lightning fast QSK cw, remote control, superb linearity and a low drive requirement. Outstanding!

The Hercules II is attractively styled to match our HF base station transceivers and will interface nicely with virtually all transceivers. The front panel includes an analog multi-meter for collector current, voltage, forward power and SWR. A ten element LED bargraph instantaneously displays peak power output. Band selection is either with the front panel switch or remotely via a rear panel connector. A front panel speaker is built in.

The internal heat sinks are air cooled by a temperature controlled tube axial fan. Whisper quiet in ssb operation, yet enough air capacity for cool operation in the key-down modes. The Hercules II is compact, good looking and generates a signal that is within one S-unit of the mighty Titan.

MODEL 9420 115/230 VAC POWER SUPPLY

Housed in a separate utility enclosure and remotely controlled through the 6 foot power cable. 100 amperes at 13.7 Vdc is provided. 80 amperes for the amplifier and 20 amps for the exciter. An alternate power supply can be a heavy duty, deep cycle, lead acid battery and an automatic 10 amp charger. This low cost alternative power source will support the Hercules II during sustained amateur service.

EXTENSION CABLE FOR REMOTE CONTROL, MODEL 300.

Twelve foot extension cable for use with the Model 9423 remote control. Terminated at both ends for quick installation.

REMOTE CONTROL HEAD MODEL 9423.

For mobile installations with the Hercules II remotely mounted. Compact size (HWD 1.5″ x 6.25″ x 4″) allows the remote head to be installed at the transceiver. Functions include ON/OFF, QSK or VOX/PTT control, band select with band indicator LEDs, 10 element LED peak power display and "FAULT" indicator. Unit includes mounting bracket and 12 ft. cable, terminated to plug into the Hercules II rear panel remote control connector. For longer cable runs, order Model 300, 12 ft. extension cable.

MODEL 264.

A combination "Y" (Molex connectors) and 4 ft. extension cable for adding a second device to the automatic band select information line. This cable required, in addition to the Model 236, if both the Hercules II and Model 253 automatic tuner are used.

MODEL 9422 DC CABLE.

Model 9422 DC power adaptor cable for mobile or fixed station battery power. 14″ length with 12 pin Molex that connects to the amplifier and heavy terminal lugs for positive and negative battery connection.

MODEL 236.

A combination "Y" (25 pin "D" connectors) and 4 ft. extension cable for connecting the Hercules II for remote control from a Paragon or Omni V transceiver. Provides a second 25 pin "D" connector for connection of second device such as a computer or the Model 301 remote frequency tuning encoder (Omni V only) to the transceiver.

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MADE IN USA

TEN-TEC

Full Power, Full Featured Manual Tuners Model 238

Model 238. The latest version of our tried and true "L" match design. This circuit is preferred among experts in the field because of its ability to match a broad range of impedances without the risk of self-resonance. All adjustments use calibrated scales for logging and a quick return to the same frequency and antenna. Rear panel fittings for four antennas. Three are dedicated for coax feedlines. The fourth can be coax, single wire or balanced feeders using the built-in high power balun. All are front panel selectable. Multi-meter (illuminated with external 12 Vdc) displays forward power in 0 - 200 and 0 - 2000 watt scales and SWR. The Model 238 is a great way to match broad operating interests to narrow-band or non-resonant antennas.

SPECIFICATIONS

Circuit: Modified "L" network.
Maximum RF Power: 2 kw with a load impedance of 3000 Ohms.
Frequency Range: 1.8 to 30 MHz.
Output Matching Range: At least 10:1 SWR, any phase angle.
Maximum Impedance, Balanced Feedline: 500 Ohms.
Input Impedance: 50 Ohms.
Input/Output Connectors: Input and four antenna coax connectors are SO-239, UHF type. Studs with wing nuts for single wire and balanced feeders.
Variable Capacitor Voltage Rating: 3.5 kV.
Inductance: 28 uH silver plated roller inductor.
Size: HWD 5.5" x 13" x 11". (13.9 x 33 x 27.9 cm).
Weight: 9 lbs (4.1 kg).

The "Closet Kilowatt"...

The ultimate XYL pleaser. The entire station enclosed in a handsome, color matched, cabinet measuring 19" high x 21" wide x 18" deep. With only the antenna, power and ground as external connections, the station almost even looks like "wireless." The cabinet is all aluminum with sturdy internal reinforcing members and all welded assembly. Light grey baked enamel finish. Recessed handholds. This idea may change the entire image of ham radio, at least in the eyes of those that see your shack.

Rack Mount Kits

RM-420 RACK MOUNT KIT
For the Model 420 Hercules II.

RM-425 RACK MOUNT KIT
For the Model 425 Titan.

RM-500 RACK MOUNT KIT
For the Omni V or Paragon.

RM-253 RACK MOUNT KIT
For the Model 253 automatic tuner.

RM-238 RACK MOUNT KIT
For the Model 238 manual tuner.

RM-P0175-19
1.75" x 19" blank panel. Use when three Ten-Tec units are mounted.

RM-P0700-19
7" x 19" blank panel. Use when Ten-Tec units are mounted.

RM-19-1750 CABINET
With panel opening 19" wide x 17.5" high.

ANTENNA TUNER, MODEL 254 RATED AT 200 WATTS

The Model 254 antenna tuner is a compact, lightweight design that will match a variety of balanced or unbalanced antenna feedlines to the 50 Ohm output of an HF transceiver. A unique, Ten-Tec designed, tapped inductor is wound on a 2 inch diameter powdered iron core with provisions for 47 positions on the inductor selection control. Two open air variable capacitors match the input and output of the "T" network. This tuner is ideal for base or portable operation. It also is very effective as a mobile tuner for extending the useable frequency range of a resonant mobile antenna. An SWR metering system is incorporated with meter scales of 0-20 and 0-200 watts. The meter can be illuminated with an external 12 - 14 Vdc source.

SPECIFICATIONS

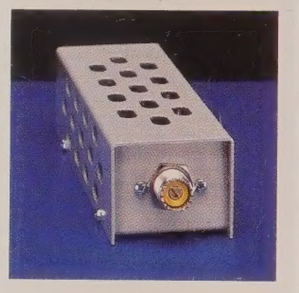
- 200 watts continuous power input.
- Silver plated 18 gauge inductor, wound on a 2 inch diameter powdered iron "donut." Forty seven position rotary tap selects inductance value.
- Two variable capacitors tune input and output. Rated at 1000 volts each.
- Frequency range 1.8 to 30 MHz.
- Powdered iron core balun is built in for balanced feeders.
- Rear panel input and outputs through SO-239 UHF connectors for coaxial lines. Terminal posts for long wire or balanced feedline type antennas and for ground. Front panel switch selects any of four antennas or the "by-pass" position.
- Meter scales for 0-20 and 0-200 watts. External 12 - 14 Vdc required for meter light. Rear panel connector provided.
- Size: HWD 3.5″ x 8.75″ x 8.5″ (8.9 x 22 x 21.6 cm).
- Weight: 4 lbs 3 oz (1.9 kg).

MODEL 291 PORTABLE/MOBILE 200 WATT TUNER

The same "T" match circuit as the Model 254. Rear panel post for connecting a long wire and a SO-239 connector for a coax fed antenna. Uses the metering in your transceiver for tuning. Small, rugged, lightweight and easy to operate. Ideal for the "knock-about" world of portable or mobile operation.

BROADBAND DUMMY LOAD MODEL 239

160 through 2 meters with 1:1 SWR. Through 70 cm below 2:1 SWR. 300 watts intermittent duty.



The Ten-Tec Story

All Ten-Tec products are produced in our 40,000 square foot plant located in the foothills of the Great Smoky Mountains. The basic processes are done in-house including the design and manufacture of printed circuit boards, plastic molding, sheet metal fabrication and finishing, and of course electronic assembly and testing. We produce our own tooling in our well equipped tool and die shop. Our development lab and quality control department are exceptionally well staffed and supported by the latest in instrumentation.

We produce custom enclosures for other equipment manufacturers and a standard catalog line of metal enclosures. We produce custom tools and dies for many manufacturers in the region. This unique combination of in-house processes ensures our ability to produce equipment of the highest quality, reliability and value.

We are proud of our reputation for customer service and product support. Our philosophy is that a sale is the beginning of a happy relationship. We provide service on our products that have been discontinued for many years, and we do so promptly and at an honest charge. Ten-Tec solves communications problems. If you have a special need, try us. We may have a cost effective solution. Your inquiry will be most welcome.

Ten-Tec manufactures communications electronics for non-amateur radio applications too. Some are custom designs for special applications and some are treated as catalog products.

PRECISION TOOL AND DIE SHOP. Almost in the "secret weapon" category is our in-house tool and die shop. For 20 years, we have been a supplier of superbly designed and crafted molds, forming dies and production jigs and fixtures for our own use as well as many other manufacturers throughout the region. Our well-equipped shop is staffed with toolmakers with many years of experience. You are not likely to be a customer for tools and dies but if your employer is, they may profit from discussing their needs with us. You do benefit from the design flexibility and "bottom line" economics resulting from this in-house capability.

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